

What is claimed is:

- 1           1.    A method comprising:  
2               supplying a negative voltage to at least one  
3       deselected wordline of a memory array.
  
- 1           2.    The method of claim 1, further comprising  
2       supplying a positive voltage to a selected wordline of the  
3       memory array to program the selected wordline while  
4       supplying the negative voltage.
  
- 1           3.    The method of claim 2, further comprising  
2       supplying the negative voltage to all wordlines of the  
3       memory array except the selected wordline.
  
- 1           4.    The method of claim 2, further comprising  
2       providing a second positive voltage signal to a selected  
3       bitline of the memory array.
  
- 1           5.    The method of claim 4, further comprising  
2       reducing a leakage current through at least one deselected  
3       cell coupled to the selected bitline of the memory array.
  
- 1           6.    The method of claim 1, further comprising  
2       providing the negative voltage and a control negative  
3       voltage to a decoder coupled to the at least one deselected  
4       wordline.

1        7.    The method of claim 6, further comprising  
2 providing the control negative voltage to a substrate of a  
3 transistor of the decoder.

1        8.    The method of claim 1, further comprising  
2 supplying the negative voltage at less than or equal to  
3 negative one volt.

1        9.    The method of claim 1, further comprising  
2 supplying the negative voltage to the deselected wordline  
3 during a first time period, and supplying a positive  
4 voltage to the same wordline during a second time period to  
5 program memory cells coupled thereto.

1        10.   An apparatus comprising:  
2        a decoder to supply a negative voltage to a deselected  
3 address line of a memory array.

1        11.   The apparatus of claim 10, wherein the decoder is  
2 further coupled to supply a positive voltage to the same  
3 address line if it is selected to be programmed.

1        12.   The apparatus of claim 10, wherein the decoder  
2 comprises a first transistor having a well coupled to  
3 receive a negative control voltage, a source terminal

4 coupled to receive the negative voltage, and a drain  
5 terminal coupled to pass the negative voltage to the  
6 deselected address line.

1 13. The apparatus of claim 12, further comprising a  
2 second transistor coupled to the first transistor and the  
3 deselected address line to pass a program pulse to the  
4 deselected address line if it becomes a selected address  
5 line.

1 14. The apparatus of claim 12, further comprising a  
2 pre-driver circuit to disable the first transistor if the  
3 deselected address line becomes a selected address line.

1 15. The apparatus of claim 10, further comprising a  
2 plurality of memory cells coupled to the decoder via the  
3 deselected address line.

1 16. The apparatus of claim 15, wherein the plurality  
2 of memory cells comprise multi-level cells of a flash  
3 memory.

1 17. An article comprising a machine-readable storage  
2 medium containing instructions that if executed enable a  
3 system to:

4        supply a negative voltage to at least one deselected  
5 wordline of a memory array.

1        18. The article of claim 17, further comprising  
2 instructions that if executed enable the system to supply a  
3 positive voltage to a selected wordline of the memory array  
4 to program the selected wordline while the negative voltage  
5 is supplied to the at least one deselected wordline.

1        19. The article of claim 18, further comprising  
2 instructions that if executed enable the system to supply  
3 the negative voltage to all wordlines of the memory array  
4 except the selected wordline.

1        20. The article of claim 17, further comprising  
2 instructions that if executed enable the system to provide  
3 a negative control voltage to a substrate of a transistor  
4 coupled to pass the negative voltage to the at least one  
5 deselected wordline.

1        21. The article of claim 17, further comprising  
2 instructions that if executed enable the system to supply  
3 the negative voltage at less than or equal to negative one  
4 volt.

1        22. A system comprising:

2        a memory array having a plurality of memory cells each  
3        coupled to wordline and a bitline;  
4        a decoder coupled to the memory array to supply a  
5        negative voltage to a deselected wordline of the memory  
6        array; and  
7        a wireless interface coupled to the memory array.

1        23. The system of claim 22, wherein the decoder is  
2        further coupled to supply a positive voltage to the  
3        deselected wordline if it becomes a selected wordline.

1        24. The system of claim 22, further comprising a  
2        second decoder to supply a positive voltage to a selected  
3        wordline while the negative voltage is supplied to the  
4        deselected wordline.

1        25. The system of claim 22, wherein the decoder  
2        comprises a first transistor having a well coupled to  
3        receive a negative control voltage, a source terminal  
4        coupled to receive the negative voltage, and a drain  
5        terminal coupled to pass the negative voltage to the  
6        deselected wordline.

1        26. The system of claim 25, further comprising a  
2        second transistor coupled to the first transistor and the

3 deselected wordline to pass a program pulse to the  
4 deselected wordline if it becomes a selected wordline.

1        27. The system of claim 25, further comprising a pre-  
2 driver circuit to disable the first transistor if the  
3 deselected wordline becomes a selected wordline.

1        28. The system of claim 22, wherein the memory array  
2 comprises a flash memory.

1        29. The system of claim 28, wherein the flash memory  
2 comprises a multi-level cell flash memory.

1        30. The system of claim 22, wherein the wireless  
2 interface comprises an antenna.